## What is claimed is:

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1. A method of treating or preventing a disorder or condition selected from the group consisting of fibrosis, Alzheimer's disease, conditions associated with leptin production, sequelae associated with cancer, cancer metastasis, diseases or conditions related to production of cytokines at inflammatory sites, and tissue damage caused by inflammation induced by infectious agents; wherein the method comprises administering to a mammal in need of such treatment or prevention a pharmaceutically effective amount of a compound of formula (I)

$$(\mathbb{R}^{5})_{d}$$

$$(\mathbb{R}^{2})_{b}$$

$$(\mathbb{R}^{1})_{a}$$

or a pharmaceutically acceptable form thereof; wherein

a is 0, 1, 2, 3, 4, or 5;

b is 0, 1, or 2;

15 c is 0, 1, or 2;

d is 0, 1, 2, 3, or 4;

X is -O-, -S-, -CH<sub>2</sub>-, or -NR<sup>6</sup>-;

Y is (C<sub>6</sub>-C<sub>10</sub>)aryl or (C<sub>2</sub>-C<sub>9</sub>)heteroaryl;

each  $R^1$  is independently H-, HO-, halo-,  $(C_1-C_8)$ alkyl-,  $(C_1-C_8)$ alkyl-O-, HO-  $(C_1-C_8)$ alkyl-, NC-,  $H_2$ N-,  $H_2$ N- $(C_1-C_8)$ alkyl-, HO-(C=O)-,  $(C_1-C_8)$ alkyl-(C=O)-,  $(C_1-C_8)$ alkyl-,  $H_2$ N-(C=O)-, or  $H_2$ N-(C=O)- $(C_1-C_8)$ alkyl-;

each  $R^2$  and  $R^3$  are independently H-, oxo,  $(C_1-C_8)$ alkyl-,  $(C_3-C_8)$ cycloalkyl- $(C_1-C_8)$ alkyl-,  $(C_6-C_{10})$ aryl-,  $(C_6-C_{10})$ aryl- $(C_1-C_8)$ alkyl-, HO- $(C_1-C_8)$ alkyl-,  $(C_2-C_9)$ heterocyclyl- $(C_1-C_8)$ alkyl-,  $(C_3-C_8)$ cycloalkyl-NH- $(C_1-C_8)$ alkyl-,  $(C_1-C_8)$ alkyl-, (

 $R^{4} \text{ is } [HO\text{-}(C=O)\text{-}][H_{2}N\text{-}](C_{1}\text{-}C_{8}) \\ \text{alkyl-, } [HO\text{-}(C=O)\text{-}][(C_{1}\text{-}C_{8}) \\ \text{alkyl-, } [HO\text{-}(C=O)\text{-}][((C_{1}\text{-}C_{8}) \\ \text{alkyl-, } [HO\text{-}(C=O)\text{-}(C_{1}\text{-}C_{8}) \\ \text{alkyl-, } [HO\text{-}(C=O)\text{-}(C_{1}\text{-}C_{1}\text{-}C_{1}) \\ \text{alkyl-, } [HO\text{-}(C=O)\text{-}(C_{1}\text{-}C_{1}) \\ \text{alkyl-, } [HO\text{-}(C=O)\text{-}(C_{1}\text{-}C_{$ 

 $C_8$ )alkyl]N-, [HO-(C=O)-( $C_1$ - $C_8$ )alkyl][( $C_1$ - $C_8$ )alkyl]N-( $C_1$ - $C_8$ )alkyl-, [HO-(C=O)-( $C_1$ - $C_8$ )alkyl][( $C_1$ - $C_8$ )alkyl- $SO_2$ ]N-, [HO-(C=O)-( $C_1$ - $C_8$ )alkyl][( $C_1$ - $C_8$ )alkyl- $SO_2$ ]N-( $C_1$ - $C_8$ )alkyl-, [HO-(C=O)-(C<sub>1</sub>- $C_8$ )alkyl][(C<sub>1</sub>- $C_8$ )alkyl-(C=O)-]N-, [HO-(C=O)-(C<sub>1</sub>- $C_8$ )alkyl][( $C_1$ - $C_8$ )alkyl-(C=O)-]N-( $C_1$ - $C_8$ )alkyl-, [HO-(C=O)-( $C_1$ - $C_8$ )alkyl][( $C_1$ - $C_8$ )alkyl-O-(C=O)-N-,  $[HO-(C=O)-(C_1-C_8)alkyl][(C_1-C_8)alkyl-O-(C=O)-N-(C_1-C_8)alkyl-, <math>[HO-(C=O)-N-(C_1-C_8)alkyl-][(C_1-C_8)alkyl-][(C_1-C_8)alkyl-][(C_1-C_8)alkyl-O-(C=O)-N-(C_1-C_8)alkyl-][(C_1-C_8)alkyl-O-(C=O)-N-(C_1-C_8)alkyl-O-$ 5  $NH-(C=O)-]N-(C_1-C_8)alkyl-, HO-(C=O)-(C_1-C_8)alkyl-O-N=(C_1-C_8)alkyl-, HO-(C=O)-(C_1-C_8)alkyl-, HO-(C=O)-(C_1-C_8)alkyl-, HO-(C=O)-(C_1-C_8)alkyl-O-N=(C_1-C_8)alkyl-, HO-(C=O)-(C_1-C_8)alkyl-O-N=(C_1-C_8)alkyl-O-N=(C_1-C_8)alkyl-O-N=(C_1-C_8)alkyl-, HO-(C=O)-(C_1-C_8)alkyl-O-N=(C_1-C_8)alkyl-O-N=(C_1-C_8)alkyl-, HO-(C=O)-(C_1-C_8)alkyl-O-N=(C_1-C_$  $(C_1-C_8)alkyl-SO_2-$ ,  $HO-(C=O)-(C_1-C_8)alkyl-SO_2-(C_1-C_8)alkyl-$ ,  $HO-(C=O)-(C_1-C_8)alkyl SO_2$ -NH-, HO-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-SO<sub>2</sub>-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, HO-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-10  $SO_2$ -, HO-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, HO-(C=O)-(C=O)-NH-SO<sub>2</sub>-, HO- $(C=O)-(C=O)-NH-SO_2-(C_1-C_8)$  alkyl-,  $HO-(C=O)-(C_1-C_8)$  alkyl-NH-(C=O)-NH-,  $HO-(C=O)-(C_1-C_8)$  $(C=O)-(C_1-C_8)alkyl-NH-(C=O)-NH-(C_1-C_8)alkyl-$ ,  $HO-(C=O)-(C_1-C_8)alkyl-O-$ ,  $HO-(C=O)-(C_1-C_8)alkyl-O (C=O)-(C_1-C_8)$ alkyl-O- $(C_1-C_8)$ alkyl-, HO- $(C=O)-(C_1-C_8)$ alkyl substituted with hydroxy, HO-(C=O)-( $C_2$ - $C_8$ )alkenyl-, ( $C_1$ - $C_9$ )heterocyclyl-( $C_1$ - $C_8$ )alkyl-O-, ( $C_1$ - $C_9$ )heterocyclyl-15  $(C_1-C_8)$ alkyl-O- $(C_1-C_8)$ alkyl-,  $(C_1-C_9)$ heteroaryl- $(C_1-C_8)$ alkyl-O-,  $(C_1-C_9)$ heteroaryl- $(C_1-C_8)$  $C_8$ )alkyl-O-( $C_1$ - $C_8$ )alkyl-, ( $C_1$ - $C_9$ )heterocyclyl-O-, ( $C_1$ - $C_9$ )heterocyclyl-O-( $C_1$ - $C_8$ )alkyl-,  $(C_1-C_9)$ heteroaryl-O-,  $(C_1-C_9)$ heteroaryl-O- $(C_1-C_8)$ alkyl-, HO-(C=O)- $(C_1-C_8)$ alkyl-S-,  $HO-(C=O)-(C_1-C_8)alkyl-S-(C_1-C_8)alkyl-$ ,  $(C_1-C_9)heterocyclyl-(C_1-C_8)alkyl-S-$ ,  $(C_1-C_9)alkyl-S-$ ,  $(C_$ C<sub>9</sub>)heterocyclyl-(C<sub>1</sub>-C<sub>8</sub>)alkyl-S-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>9</sub>)heteroaryl-(C<sub>1</sub>-C<sub>8</sub>)alkyl-S-, (C<sub>1</sub>- $C_9) heteroaryl-(C_1-C_8) alkyl-S-(C_1-C_8) alkyl-, \ (C_1-C_9) heterocyclyl-S-, \ (C_1-C_9) heterocy$ 20 S- $(C_1-C_8)$ alkyl-,  $(C_1-C_9)$ heteroaryl-S-,  $(C_1-C_9)$ heteroaryl-S- $(C_1-C_8)$ alkyl-, HO-(C=O)- $(C_1-C_8)alkyl-NH-SO_2-NH-$ ,  $HO-(C=O)-(C_1-C_8)alkyl-NH-SO_2-NH-(C_1-C_8)alkyl-$ ,  $HO-(C_1-C_8)alkyl (C=O)-(C_1-C_8)$ alkyl- $SO_2-NH-(C=O)-$ ,  $HO-(C=O)-(C_1-C_8)$ alkyl- $SO_2-NH-(C=O)-(C_1-C_8)$ C<sub>8</sub>)alkyl-, HO-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-(C=O)-NH-SO<sub>2</sub>-, HO-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-(C=O)-NH- $SO_2-(C_1-C_8)$ alkyl-,  $HO-(C=O)-(C=O)-(C=O)-(C=O)-(C_1-C_8)$ alkyl-,  $HO-(C=O)-(C_1-C_8)$ 25  $C_8$ )alkyl-(C=O)-, HO-(C=O)-( $C_1$ - $C_8$ )alkyl-(C=O)-( $C_1$ - $C_8$ )alkyl-, HO-(C=O)-( $C_1$ -C<sub>9</sub>)heterocyclyl-(C=O)-, HO-(C=O)-(C<sub>1</sub>-C<sub>9</sub>)heteroaryl-(C=O)-, NC-NH-(C=O)-, NC- $NH-(C=O)-(C_1-C_8)alkyl, [(C_1-C_8)alkyl-SO_2-NH-(C=O)-][H_2N-](C_1-C_8)alkyl-, (C_1-C_8)alkyl SO_2$ -NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>8</sub>)alkyl-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-, (C<sub>1</sub>-C<sub>8</sub>) 30  $C_8$ )alkyl- $SO_2$ -NH-(C=O)-( $C_1$ - $C_8$ )alkyl-NH-( $C_1$ - $C_8$ )alkyl-, [( $C_1$ - $C_8$ )alkyl-, SO<sub>2</sub>-NH-(C=O)- $(C_1-C_8)alkyl][(C_1-C_8)alkyl]N-, [(C_1-C_8)alkyl-SO_2-NH-(C=O)-(C_1-C_8)alkyl][(C_1-C_8)alkyl]N (C=O)-(C_1-C_8)alkyl-NH-SO_2-(C_1-C_8)alkyl-, (C_1-C_8)alkyl-SO_2-NH-(C=O)-(C_1-C_8)alkyl SO_2$ -NH-,  $(C_1$ - $C_8$ )alkyl- $SO_2$ -NH-(C=O)- $(C_1$ - $C_8$ )alkyl- $SO_2$ -NH-( $C_1$ - $C_8$ )alkyl-,  $(C_1$ - $C_8$ )alkyl-

 $SO_2$ -NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-SO<sub>2</sub>-, (C<sub>1</sub>-C<sub>8</sub>)alkyl-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-SO<sub>2</sub>-(C<sub>1</sub>- $C_8$ )alkyl-,  $(C_1-C_8)$ alkyl-SO<sub>2</sub>-NH-(C=O)-(C=O)-,  $(C_1-C_8)$ alkyl-SO<sub>2</sub>-NH-(C=O)-(C=O)- $C_8$ )alkyl-,  $(C_1-C_8)$ alkyl- $SO_2$ -NH-(C=O)- $(C_1-C_8)$ alkyl-(C=O)-,  $(C_1-C_8)$ alkyl- $SO_2$ -NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, NC-(C<sub>1</sub>-C<sub>8</sub>)alkyl-SO<sub>2</sub>-NH-(C=O)-, NC-(C<sub>1</sub>-C<sub>8</sub>)alkyl-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, HO-(C<sub>1</sub>-C<sub>8</sub>)alkyl-SO<sub>2</sub>-NH-(C=O)-, HO-(C<sub>1</sub>-C<sub>8</sub>)alkyl-SO<sub>2</sub>-NH-(C=O)-, 5  $C_8$ )alkyl-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>8</sub>)alkyl-SO<sub>2</sub>-NH-(C=O)-(C<sub>2</sub>-C<sub>8</sub>)alkenyl-,  $(C_1-C_9)$ heterocyclyl-SO<sub>2</sub>-NH-(C=O)-,  $(C_1-C_9)$ heterocyclyl-SO<sub>2</sub>-NH-(C=O)- $(C_1-C_8)$ alkyl-,  $(C_1-C_9)$ heterocyclyl- $(C_1-C_8)$ alkyl-SO<sub>2</sub>-NH-(C=O)-,  $(C_1-C_9)$ heterocyclyl- $(C_1-C_8)$ alkyl- $SO_2$ -NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>6</sub>-C<sub>10</sub>)aryl-SO<sub>2</sub>-NH-(C=O)-, (C<sub>6</sub>-C<sub>10</sub>)aryl-SO<sub>2</sub>-NH- $(C=O)-(C_1-C_8)$ alkyl-,  $(C_1-C_9)$ heteroaryl-SO<sub>2</sub>-NH-(C=O)-,  $(C_1-C_9)$ heteroaryl-SO<sub>2</sub>-NH-10  $(C=O)-(C_1-C_8)alkyl-$ ,  $H_2N-SO_2-NH-(C=O)-$ ,  $H_2N-SO_2-NH-(C=O)-(C_1-C_8)alkyl-$ ,  $(C_1-C_8)alkyl-$ , ( $C_8$ )alkyl-NH-SO<sub>2</sub>-NH-(C=O)-, (C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, [(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH  $C_8$ )alkyl]<sub>2</sub>N-SO<sub>2</sub>-NH-(C=O)-, [(C<sub>1</sub>-C<sub>8</sub>)alkyl]<sub>2</sub>N-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>8</sub>)alkyl  $C_8$ )alkyl- $SO_2$ -NH-(C=O)-( $C_1$ - $C_8$ )alkyl-O-, ( $C_1$ - $C_8$ )alkyl- $SO_2$ -NH-(C=O)-( $C_1$ - $C_8$ )alkyl-O-15  $(C_1-C_8)alkyl-, H_2N-SO_2-(C_1-C_8)alkyl-, (C_1-C_8)alkyl-(C=O)-NH-SO_2-(C_1-C_8)alkyl-, NC (C_1-C_8)$ alkyl- $(C=O)-NH-SO_2-(C_1-C_8)$ alkyl-,  $HO-(C_1-C_8)$ alkyl- $(C=O)-NH-SO_2-(C_1-C_8)$ alkyl- $(C=O)-NH-SO_2-(C_1-C_8)$ alkyl- $(C=O)-NH-SO_2-(C_1-C_8)$ alkyl- $(C=O)-NH-SO_2-(C_1-C_8)$  $C_8$ )alkyl-,  $(C_6-C_{10})$ aryl-(C=O)-NH-SO<sub>2</sub>-,  $(C_6-C_{10})$ aryl-(C=O)-NH-SO<sub>2</sub>- $(C_1-C_8)$ alkyl-,  $(C_1-C_8)$ alkyl-C<sub>9</sub>)heteroaryl-(C=O)-NH-SO<sub>2</sub>-, (C<sub>1</sub>-C<sub>9</sub>)heteroaryl-(C=O)-NH-SO<sub>2</sub>-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>9</sub>)heterocyclyl-(C=O)-NH-SO<sub>2</sub>-, (C<sub>1</sub>-C<sub>9</sub>)heterocyclyl-(C=O)-NH-SO<sub>2</sub>-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, H<sub>2</sub>N-(C=O)-NH-SO<sub>2</sub>-, H<sub>2</sub>N-(C=O)-NH-SO<sub>2</sub>-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-(C=O)-NH-20  $SO_2-(C_1-C_8)alkyl-, [(C_1-C_8)alkyl]_2-N-(C=O)-NH-SO_2-(C_1-C_8)alkyl-, (C_6-C_{10})aryl-NH-SO_2-(C_1-C_8)alkyl-, (C_6-C_{10})aryl-NH-SO_2-(C_1-C_8)alkyl-, (C_6-C_10)aryl-NH-SO_2-(C_1-C_8)alkyl-, (C_6-C_10)aryl-NH-SO_2-(C_1-C_8)aryl-, (C_6-C_10)aryl-, (C_6-C_10)aryl-,$  $(C=O)-NH-SO_{2^-}$ ,  $(C_6-C_{10})$ aryl-NH- $(C=O)-NH-SO_{2^-}$ ,  $(C_1-C_8)$ alkyl-,  $(C_1-C_9)$ heteroaryl-NH-(C=O)-NH-SO<sub>2</sub>-, (C<sub>1</sub>-C<sub>9</sub>)heteroaryl-NH-(C=O)-NH-SO<sub>2</sub>-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>8</sub>)alkyl-O- $(C=O)-NH-SO_2-$ ,  $(C_1-C_8)alkyl-O-(C=O)-NH-SO_2-(C_1-C_8)alkyl-$ ,  $(C_6-C_{10})aryloxy-(C=O)-NH-SO_2 NH-SO_{2}-$ ,  $(C_{6}-C_{10})$  aryloxy- $(C=O)-NH-SO_{2}-$ ,  $(C_{1}-C_{8})$  alkyl-,  $(C_{1}-C_{8})$  alkyl-SO<sub>2</sub>-NH-(C=O)-25 O-,  $(C_1-C_8)$ alkyl-SO<sub>2</sub>-NH-(C=O)-O- $(C_1-C_8)$ alkyl-,  $(C_1-C_8)$ alkyl-SO<sub>2</sub>-NH-(C=O)-NH- $(C_1-C_8)$ alkyl-SO<sub>2</sub>-NH-(C=O)-NH- $(C_1-C_8)$ alkyl-SO<sub>2</sub>-NH-(C=O)-NH- $(C_1-C_8)$ alkyl-SO<sub>2</sub>-NH-(C=O)-NH- $(C_1-C_8)$ alkyl-SO<sub>2</sub>-NH-(C=O)-NH-(C=O)-NH- $(C_1-C_8)$ alkyl-SO<sub>2</sub>-NH-(C=O)-NH-(C= $C_8$ )alkyl-,  $(C_6-C_{10})$ aryl-SO<sub>2</sub>-NH-(C=O)-O-,  $(C_6-C_{10})$ aryl-SO<sub>2</sub>-NH-(C=O)-O- $(C_1-C_8)$ alkyl-,  $(C_6-C_{10})$ aryl-SO<sub>2</sub>-NH-(C=O)-NH-,  $(C_6-C_{10})$ aryl-SO<sub>2</sub>-NH-(C=O)-NH-( $C_1-C_8$ )alkyl-,  $(C_1-C_1)$  $C_9$ )heteroaryl-SO<sub>2</sub>-NH-(C=O)-O-, ( $C_1$ - $C_9$ )heteroaryl-SO<sub>2</sub>-NH-(C=O)-O-( $C_1$ - $C_8$ )alkyl-, 30 NH<sub>2</sub>-SO<sub>2</sub>-NH-(C=O)-O-, NH<sub>2</sub>-SO<sub>2</sub>-NH-(C=O)-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>9</sub>)heteroaryl-SO<sub>2</sub>-NH-(C=O)-NH-,  $(C_1-C_9)$ heteroaryl-SO<sub>2</sub>-NH-(C=O)-NH- $(C_1-C_8)$ alkyl-, NH<sub>2</sub>-SO<sub>2</sub>-NH-(C=O)-NH-,  $NH_2-SO_2-NH-(C=O)-NH-(C_1-C_8)$  alkyl-,  $HO-(C=O)-(C_1-C_8)$  alkyl- $NH-(C=O)-(C_1-C_8)$  alkyl- $NH-(C=O)-(C_1-C_8)$ O-, HO-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-(C=O)-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, HO-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-O-(C=O)-NH-,  $HO-(C=O)-(C_1-C_8)alkyl-O-(C=O)-NH-(C_1-C_8)alkyl-$ ,  $(C_1-C_8)alkyl-$ (C=O)-

 $NH-SO_2-NH-, (C_1-C_8)alkyl-(C=O)-NH-SO_2-NH-(C_1-C_8)alkyl, (C_6-C_{10})aryl-(C=O)-NH-SO_2-NH-, (C_6-C_{10})aryl-(C=O)-NH-SO_2-NH-, (C_1-C_9)alkyl, (C_1-C_9)alkyl, (C_1-C_9)-NH-SO_2-NH-, (C_1-C_9)alkyl-(C=O)-NH-SO_2-NH-, (C_1-C_9)alkyl-(C=O)-NH-SO_2-NH-, NH_2-(C=O)-NH-SO_2-NH-(C_1-C_8)alkyl-, (C_1-C_9)alkyl-(C_1-C_8)alkyl-, (C_1-C_9)-NH-SO_2-NH-, (C_1-C_9)alkyl-, (C_1-C_9)-NH-SO_2-NH-, (C_1-C_9)-NH-SO_2-NH-$ 

5  $C_9$ )heteroaryl- $(C_1-C_8)$ alkyl-(C=O)- $(C_1-C_8)$ alkyl- $(C_1-C_9)$ heterocyclyl- $(C_1-C_8)$ alkyl-(C=O)- $(C_1-C_8)$ alkyl-(C=O)- $(C_1-C_8)$ alkyl-(C=O)- $(C_1-C_8)$ alkyl-(C=O)- $(C_1-C_8)$ alkyl;

or, if Y is a  $(C_2-C_9)$ heteroaryl group, then  $R^4$  can also be HO-(C=O)-( $C_1-C_8$ )alkyl-, ( $C_2-C_9$ )heteroaryl-, ( $C_2-C_9$ )heteroaryl-, ( $C_1-C_8$ )alkyl, or ( $C_2-C_9$ )heterocyclyl-( $C_1-C_8$ )alkyl;

each  $R^5$  is independently H-, HO-, halo-, NC-, HO-(C=O)-,  $H_2N$ -,  $(C_1-C_8)$ alkyl-NH-,  $[(C_1-C_8)alkyl]_2N$ -,  $(C_1-C_8)alkyl$ -,  $(C_1-C_8)alkyl$ -O-, HO-( $C_1-C_8$ )alkyl-,  $(C_1-C_8)alkyl$ -,  $(C_1-$ 

- $C_9) heteroaryl-, \ (C_6-C_{10}) aryloxy-, \ H_2N-(C=O)-, \ H_2N-(C=O)-(C_1-C_8) alkyl-, \ (C_1-C_8) alkyl- \\ NH-(C=O)-, \ (C_1-C_8) alkyl-NH-(C=O)-(C_1-C_8) alkyl-, \ [(C_1-C_8) alkyl]_2N-(C=O)-, \ [(C_1-C_8) alkyl-, \ (C_3-C_8) cycloalkyl-, \ (C_1-C_8) alkyl-SO_2-, \ NC-(C_1-C_8) alkyl-, \ (C_1-C_8) alkyl-, \ (C_1-C_8)$
- 20  $R^6$  is H,  $(C_1-C_8)$ alkyl-,  $(C_1-C_8)$ alkyl-(C=O)-,  $(C_6-C_{10})$ aryl-(C=O)-,  $(C_2-C_9)$ heteroaryl-(C=O)-,  $H_2N-(C=O)$ -,  $(C_1-C_8)$ alkyl-NH-(C=O)-,  $[(C_1-C_8)$ alkyl] $_2N-(C=O)$ -,  $(C_1-C_8)$ alkyl-O-(C=O)-, or  $(C_1-C_8)$ alkyl- $SO_2$ -.
- 2. The method according to claim 1, wherein the pharmaceutically acceptable form of the compound is a pharmaceutically acceptable salt or prodrug thereof.
  - 3. The method according to claim 1, wherein the stereochemistry of the compound is as depicted in formula **la** and b is 0 or 1 and c is 1:

$$(R^5)_d$$
  $(R^2)_b$   $(R^1)_a$   $(R^1)_a$ 

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- 4. The method according to claim 3, wherein the compound of formula la each  $R^1$  is independently H-, HO-, halo, NC-,  $(C_1-C_8)$ alkyl, or  $(C_1-C_8)$ alkyl-O-; and a is 1 or 2.
- 5 5. The method according to claim 4, wherein the compound of formula Ia  $R^2$  is H- or  $(C_1-C_8)$ alkyl- and  $R^3$  is  $(C_1-C_8)$ alkyl-.
  - 6. The method according to claim 5, wherein the compound of formula la X is O- or –NR<sup>6</sup>- and R<sup>6</sup> is H-.

7. The method according to claim 6, wherein the compound of formula la d is 1 or 2, and R<sup>5</sup> is H-, HO-, NC-, (C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>8</sub>)alkyl-O-, (C<sub>1</sub>-C<sub>8</sub>)alkyl-(C=O)-, or halo.

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- 15 8. The method according to claim 7, wherein the compound of formula Ia  $R^4$  is  $[HO-(C=O)-][H_2N-](C_1-C_8)$  alkyl-,  $[HO-(C=O)-][(C_1-C_8)$  alkyl)NH-]( $C_1-C_8$ ) alkyl-,  $[HO-(C=O)-][(C_1-C_8)$  alkyl-]( $C_1-C_8$ ) alkyl-,  $[HO-(C=O)-(C_1-C_8)$  alkyl-]( $[C_1-C_8)$  alkyl-]N-( $[C_1-C_8)$  alkyl-,  $[C_1-C_8]$  alkyl-,  $[C_1-C$
- $C_8)alkyl-, NC-(C_1-C_8)alkyl-(C=O)-NH-SO_2-(C_1-C_8)alkyl-, HO-(C_1-C_8)alkyl-(C=O)-NH-SO_2-(C_1-C_8)alkyl-, (C_1-C_9)heteroaryl-(C=O)-NH-SO_2-(C_1-C_8)alkyl-, (C_1-C_9)heterocyclyl-(C=O)-NH-SO_2-(C_1-C_8)alkyl-, H_2N-(C=O)-NH-SO_2-(C_1-C_8)alkyl-, (C_1-C_8)alkyl-NH-(C=O)-NH-SO_2-(C_1-C_8)alkyl-, (C_1-C_8)alkyl-SO_2-NH-(C=O)-NH-(C_1-C_8)alkyl-, (C_1-C_8)alkyl-, (C_1-C_8)alkyl-, (C_1-C_8)alkyl-, (C_1-C_8)alkyl-, (C_1-C_8)alkyl-O-, (C_1-C_8)alkyl-(C=O)-NH-SO_2-NH-(C_1-C_8)alkyl-NH-(C=O)-(C_1-C_8)alkyl-O-, (C_1-C_8)alkyl-NH-(C_$
- $\begin{aligned} & + O_{-}(C=O)_{-}(C_{1}-C_{8})alkyl-O_{-}(C_{1}-C_{8})alkyl-, \ (C_{1}-C_{8})alkyl-SO_{2}-NH_{-}(C=O)_{-}(C_{1}-C_{8})alkyl-O_{-}, \\ & + (C_{1}-C_{9})heterocyclyl_{-}(C_{1}-C_{8})alkyl-O_{-}, \ (C_{1}-C_{9})heterocyclyl_{-}(C_{1}-C_{8})alkyl-O_{-}(C_{1}-C_{8})alkyl-O_{-}, \\ & + (C_{1}-C_{9})heteroaryl_{-}(C_{1}-C_{8})alkyl-O_{-}, \ (C_{1}-C_{9})heterocyclyl_{-}(C_{1}-C_{8})alkyl-O_{-}(C_{1}-C_{8})alkyl-O_{-}, \ (C_{1}-C_{9})heteroaryl_{-}(C_{1}-C_{9})alkyl-O_{-}, \ (C_{1}-C_{9})heteroaryl_{-}(C_{1}-C_{8})alkyl-S_{-}, \ HO_{-}(C=O)_{-}(C_{1}-C_{8})alkyl-S_{-}, \ HO_{-}(C_{1}-C_{8})alkyl-S_{-}, \ HO_{-}(C_{1}-C_{8})$

 $(C_1-C_8)alkyl-, (C_1-C_9)heterocyclyl-(C_1-C_8)alkyl-S-, (C_1-C_9)heterocyclyl-(C_1-C_8)alkyl-S- \\ (C_1-C_8)alkyl-, (C_1-C_9)heteroaryl-(C_1-C_8)alkyl-S-, (C_1-C_9)heteroaryl-(C_1-C_8)alkyl-S-(C_1-C_8)alkyl-, (C_1-C_9)heterocyclyl-S-, (C_1-C_9)heterocyclyl-S-(C_1-C_8)alkyl-, (C_1-C_9)heteroaryl-S-, (C_1-C_9)heteroaryl-S-(C_1-C_8)alkyl-, HO-(C=O)-(C_1-C_8)alkyl-SO_2-, HO-(C=O)-(C_1-C_8)alkyl-SO_2-(C_1-C_8)alkyl-, HO-(C=O)-(C_1-C_8)alkyl-, HO-(C=O)-(C_1-C_8)alkyl-, (C_1-C_9)heteroaryl-(C_1-C_8)alkyl-, (C_1-C_9)heterocyclyl-(C_1-C_8)alkyl-, (C_1-C_9)heteroaryl-(C_1-C_8)alkyl-(C=O)-, or (C_1-C_9)heterocyclyl-(C_1-C_8)alkyl-(C=O)-.$ 

- 9. The method according to claim 8, wherein the compound of formula Ia Y is  $(C_6-C_{10})$  aryl.
- The method according to claim 3, wherein the compound of formula Ia R4 is 10.  $(C=O)-][)(C_1-C_8)alkyl)_2N-](C_1-C_8)alkyl-, \\ [HO-(C=O)-(C_1-C_8)alkyl][(C_1-C_8)alkyl]N-, \\ [HO-(C=O)-(C_1-C_8)alkyl][(C_1-C_8)alkyl]N-, \\ [HO-(C=O)-(C_1-C_8)alkyl][(C_1$ 15  $(C=O)-(C_1-C_8)alkyl][(C_1-C_8)alkyl]N-(C_1-C_8)alkyl-, (C_1-C_8)alkyl-SO_2-NH-(C=O)-(C_1-C_8)alkyl-SO_2-NH-(C_1-C_8)alkyl C_8$ )alkyl-, NC-( $C_1$ - $C_8$ )alkyl-SO<sub>2</sub>-NH-(C=O)-( $C_1$ - $C_8$ )alkyl-, HO-( $C_1$ - $C_8$ )alkyl-SO<sub>2</sub>-NH- $(C=O)-(C_1-C_8)$ alkyl-,  $(C_1-C_9)$ heterocyclyl-SO<sub>2</sub>-NH- $(C=O)-(C_1-C_8)$ alkyl-,  $(C_1-C_8)$ alkyl- $C_9$ )heterocyclyl- $(C_1-C_8)$ alkyl- $SO_2$ -NH-(C=O)- $(C_1-C_8)$ alkyl-,  $(C_1-C_9)$ heteroaryl- $SO_2$ -NH- $(C=O)-(C_1-C_8)alkyl-, H_2N-SO_2-NH-(C=O)-(C_1-C_8)alkyl-, (C_1-C_8)alkyl-NH-SO_2-NH-$ (C=O)-,  $(C_1-C_8)$ alkyl-SO<sub>2</sub>-NH-(C=O)- $(C_1-C_8)$ alkyl-O-,  $(C_1-C_8)$ alkyl-SO<sub>2</sub>-NH-(C=O)- $(C_1-C_$ 20  $C_8$ )alkyl-O-( $C_1$ - $C_8$ )alkyl-,  $H_2$ N-SO<sub>2</sub>-( $C_1$ - $C_8$ )alkyl-, ( $C_1$ - $C_8$ )alkyl-(C=O)-NH-SO<sub>2</sub>-( $C_1$ - $C_8$ )alkyl-, NC-( $C_1$ - $C_8$ )alkyl-(C=O)-NH-SO<sub>2</sub>-( $C_1$ - $C_8$ )alkyl-, HO-( $C_1$ - $C_8$ )alkyl-(C=O)-NH- $SO_2$ -(C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>9</sub>)heteroaryl-(C=O)-NH-SO<sub>2</sub>-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>- $C_9$ )heterocyclyl-(C=O)-NH-SO<sub>2</sub>-( $C_1$ - $C_8$ )alkyl-,  $H_2N$ -(C=O)-NH-SO<sub>2</sub>-( $C_1$ - $C_8$ )alkyl-, ( $C_1$ -25  $C_8$ )alkyl-NH-(C=O)-NH-SO<sub>2</sub>-( $C_1$ - $C_8$ )alkyl-, ( $C_1$ - $C_8$ )alkyl-SO<sub>2</sub>-NH-(C=O)-NH-( $C_1$ - $C_8$ )alkyl-,  $(C_1-C_8)$ alkyl-(C=O)-NH-SO<sub>2</sub>-NH- $(C_1-C_8)$ alkyl, HO-(C=O)- $(C_1-C_8)$ alkyl-O-,  $HO-(C=O)-(C_1-C_8)alkyl-O-(C_1-C_8)alkyl-SO_2-NH-(C=O)-(C_1-C_8)alkyl-O (C_1-C_9)$ heterocyclyl- $(C_1-C_8)$ alkyl-O-,  $(C_1-C_9)$ heterocyclyl- $(C_1-C_8)$ alkyl-O- $(C_1-C_8)$ alkyl-,  $(C_1-C_9)$ heteroaryl- $(C_1-C_8)$ alkyl-O-,  $(C_1-C_9)$ heteroaryl- $(C_1-C_8)$ alkyl-O- $(C_1-C_8)$ alkyl-,  $(C_1-C_9)$ 30 C<sub>9</sub>)heterocyclyl-O-, (C<sub>1</sub>-C<sub>9</sub>)heterocyclyl-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>9</sub>)heteroaryl-O-, (C<sub>1</sub>- $C_9$ )heteroaryl-O-( $C_1$ - $C_8$ )alkyl-, HO-(C=O)-( $C_1$ - $C_8$ )alkyl-S-, HO-(C=O)-( $C_1$ - $C_8$ )alkyl-S-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>9</sub>)heterocyclyl-(C<sub>1</sub>-C<sub>8</sub>)alkyl-S-, (C<sub>1</sub>-C<sub>9</sub>)heterocyclyl-(C<sub>1</sub>-C<sub>8</sub>)alkyl-S-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>9</sub>)heteroaryl-(C<sub>1</sub>-C<sub>8</sub>)alkyl-S-, (C<sub>1</sub>-C<sub>9</sub>)heteroaryl-(C<sub>1</sub>-C<sub>8</sub>)alkyl-S-(C<sub>1</sub>-

 $C_8$ )alkyl-,  $(C_1-C_9)$ heterocyclyl-S-,  $(C_1-C_9)$ heterocyclyl-S- $(C_1-C_8)$ alkyl-,  $(C_1-C_9)$ heterocyclyl-S-,  $(C_1-C_9)$ heterocyclyl-S-

 $C_9) heteroaryl-S-, (C_1-C_9) heteroaryl-S-(C_1-C_8) alkyl-, HO-(C=O)-(C_1-C_8) alkyl-SO_2-, HO-(C=O)-(C_1-C_8) alkyl-SO_2-(C_1-C_8) alkyl-, HO-(C=O)-(C=O)-(C_1-C_8) alkyl-, HO-(C=O)-(C_1-C_8) alkyl-(C=O)-, HO-(C=O)-(C_1-C_8) alkyl-(C=O)-(C_1-C_8) alkyl-(C=O)-, or <math>(C_1-C_9) heterocyclyl-(C_1-C_8) alkyl-(C=O)-$ .

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11. The method according to claim 10, wherein the compound of formula la a is 1 or 2;

X is -O-or  $-NR^6$ -;

each R1 is independently H-, HO-, halo, NC-, (C1-C8)alkyl, or (C1-C8)alkyl-O-

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 $R^2 \text{ and } R^3 \text{ are each independently H-, } (C_1-C_8)alkyl-, (C_3-C_8)cycloalkyl-, (C_3-C_8)cycloalkyl-, (C_3-C_8)cycloalkyl-, (C_6-C_{10})aryl-, (C_6-C_{10})aryl-, (C_1-C_8)alkyl-, HO-(C_1-C_8)alkyl-, HO-(C_1-C_8)alkyl-, (C_1-C_8)alkyl-, (C_1-C_8)alkyl-, (C_1-C_8)alkyl-O-(C=O)-NH-(C_1-C_8)alkyl-, H_2N-(C=O)-NH-(C_1-C_8)alkyl-, (C_1-C_8)alkyl-SO_2-NH-(C_1-C_8)alkyl-, (C_1-C_8)alkyl-, (C_1-C_8)alkyl-, (C_1-C_8)alkyl-, and R^5 is H-, HO-, NC-, (C_1-C_8)alkyl-, (C_1-C_8)alkyl-O-, (C_1-C_8)alkyl-(C=O)-, or halo.$ 

- 12. The method according to claim 11, wherein the compound of formula la a is 1 or 2;
- 20 d is 1 or 2;

X is -O-;

Y is  $(C_6-C_{10})$ aryl;

R<sup>1</sup> is halo:

R<sup>2</sup> is H- or (C<sub>1</sub>-C<sub>8</sub>)alkyl-;

25 R<sup>3</sup> is (C<sub>1</sub>-C<sub>8</sub>)alkyl-; and

 $R^5$  is H-, halo,  $(C_1-C_8)$ alkyl-, or  $(C_1-C_8)$ alkyl-O-.

13. The method according to claim 12, wherein the compound of formula la R<sup>4</sup> is [HO-(C=O)-][H<sub>2</sub>N-](C<sub>1</sub>-C<sub>8</sub>)alkyl-, [HO-(C=O)-][(C<sub>1</sub>-C<sub>8</sub>)alkyl)NH-](C<sub>1</sub>-C<sub>8</sub>)alkyl-, [HO-(C=O)-][)(C<sub>1</sub>-C<sub>8</sub>)alkyl)<sub>2</sub>N-](C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>9</sub>)heterocyclyl-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>9</sub>)heteroaryl-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, H<sub>2</sub>N-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>8</sub>)alkyl-NH-SO<sub>2</sub>-NH-(C=O)-, (C<sub>1</sub>-C<sub>8</sub>)alkyl-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-O-, (C<sub>1</sub>-C<sub>8</sub>)alkyl-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-O-, (C<sub>1</sub>-C<sub>8</sub>)alkyl-SO<sub>2</sub>-NH-(C=O)-NH-

 $SO_2$ -( $C_1$ - $C_8$ )alkyl-, ( $C_1$ - $C_9$ )heterocyclyl-(C=O)-NH- $SO_2$ -( $C_1$ - $C_8$ )alkyl-, ( $C_1$ - $C_8$ )alkyl-NH- $(C=O)-NH-SO_2-(C_1-C_8)alkyl-, (C_1-C_8)alkyl-SO_2-NH-(C=O)-NH-(C_1-C_8)alkyl-, (C_1-C_8)alkyl-, (C_1-C_8)$  $C_8$ )alkyl-(C=O)-NH-SO<sub>2</sub>-NH-(C<sub>1</sub>- $C_8$ )alkyl, (C<sub>1</sub>- $C_8$ )alkyl-SO<sub>2</sub>-NH-(C=O)-(C<sub>1</sub>- $C_8$ )alkyl-O-,  $HO-(C=O)-(C_1-C_8)alkyl-SO_2-$ ,  $HO-(C=O)-(C_1-C_8)alkyl-SO_2-(C_1-C_8)alkyl-$ ,  $HO-(C=O)-(C_1-C_8)alkyl (C=O)-(C_1-C_8)$ alkyl-,  $HO-(C=O)-(C_1-C_8)$ alkyl-(C=O)-,  $HO-(C=O)-(C_1-C_8)$ alkyl-(C=O)- $(C_1-C_8)$ alkyl-,  $HO-(C=O)-(C_1-C_8)$ alkyl- $O-N=(C_1-C_8)$ alkyl-,  $HO-(C=O)-(C_1-C_8)$ alkyl- $SO_2-C_8$ NH-, HO-(C=O)-( $C_1$ - $C_8$ )alkyl-NH-SO<sub>2</sub>-, HO-(C=O)-( $C_1$ - $C_8$ )alkyl-NH-SO<sub>2</sub>-( $C_1$ - $C_8$ )alkyl-, HO-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl substituted with hydroxy-, (C<sub>1</sub>-C<sub>8</sub>)alkyl-SO<sub>2</sub>-NH-(C=O)-O-, or  $(C_1-C_8)$ alkyl-SO<sub>2</sub>-NH-(C=O)-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl-.

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14. The method according to claim 7, wherein the compound of formula la Y is pyridyl and  $R^4$  is  $[HO-(C=O)-][H_2N-](C_1-C_8)alkyl-, [HO-(C=O)-][(C_1-C_8)alkyl)NH-](C_1-C_8)alkyl-,$  $[HO-(C=O)-][)(C_1-C_8)alkyl)_2N-](C_1-C_8)alkyl-, [HO-(C=O)-(C_1-C_8)alkyl][(C_1-C_8)alkyl]N-,$  $[HO-(C=O)-(C_1-C_8)alkyl][(C_1-C_8)alkyl]N-(C_1-C_8)alkyl-, (C_1-C_8)alkyl-SO_2-NH-(C=O)-(C_1-C_8)alkyl-SO_2-NH-(C_1-C_8)al$  $C_8$ )alkyl-, NC-( $C_1$ - $C_8$ )alkyl-SO<sub>2</sub>-NH-(C=O)-( $C_1$ - $C_8$ )alkyl-, HO-( $C_1$ - $C_8$ )alkyl-SO<sub>2</sub>-NH-15  $(C=O)-(C_1-C_8)$ alkyl-,  $(C_1-C_9)$ heterocyclyl-SO<sub>2</sub>-NH- $(C=O)-(C_1-C_8)$ alkyl-,  $(C_1-C_8)$ alkyl- $C_9$ )heterocyclyl- $(C_1-C_8)$ alkyl- $SO_2$ -NH-(C=O)- $(C_1-C_8)$ alkyl-,  $(C_1-C_9)$ heteroaryl- $SO_2$ -NH- $(C=O)-(C_1-C_8)alkyl-, H_2N-SO_2-NH-(C=O)-(C_1-C_8)alkyl-, (C_1-C_8)alkyl-NH-SO_2-NH (C=O)_{-}$ ,  $(C_1-C_8)alkyl-SO_2-NH-(C=O)_{-}$ ,  $(C_1-C_8)alkyl-O_{-}$ ,  $(C_1-C_8)alkyl-SO_2-NH-(C=O)_{-}$ 20  $C_8$ )alkyl- $O-(C_1-C_8)$ alkyl-,  $H_2N-SO_2-(C_1-C_8)$ alkyl-,  $(C_1-C_8)$ alkyl-(C=O)-NH-SO<sub>2</sub>-(C<sub>1</sub>-C<sub>8</sub>)  $C_8$ )alkyl-, NC-( $C_1$ - $C_8$ )alkyl-(C=O)-NH-SO<sub>2</sub>-( $C_1$ - $C_8$ )alkyl-, HO-( $C_1$ - $C_8$ )alkyl-(C=O)-NH- $SO_2$ -( $C_1$ - $C_8$ )alkyl-, ( $C_1$ - $C_9$ )heteroaryl-(C=O)-NH- $SO_2$ -( $C_1$ - $C_8$ )alkyl-, ( $C_1$ -C<sub>9</sub>)heterocyclyl-(C=O)-NH-SO<sub>2</sub>-( $C_1$ -C<sub>8</sub>)alkyl-,  $H_2N$ -(C=O)-NH-SO<sub>2</sub>-( $C_1$ -C<sub>8</sub>)alkyl-, ( $C_1$ - $C_8$ )alkyl-NH-(C=O)-NH-SO<sub>2</sub>-( $C_1$ - $C_8$ )alkyl-, ( $C_1$ - $C_8$ )alkyl-SO<sub>2</sub>-NH-(C=O)-NH-( $C_1$ -25  $C_8$ )alkyl-,  $(C_1-C_8)$ alkyl- $(C=O)-NH-SO_2-NH-(C_1-C_8)$ alkyl,  $HO-(C=O)-(C_1-C_8)$ alkyl-O-,  $HO-(C=O)-(C_1-C_8)alkyl-O-(C_1-C_8)alkyl-, (C_1-C_8)alkyl-SO_2-NH-(C=O)-(C_1-C_8)alkyl-O-,$  $(C_1-C_9)$ heterocyclyl- $(C_1-C_8)$ alkyl-O-,  $(C_1-C_9)$ heterocyclyl- $(C_1-C_8)$ alkyl-O- $(C_1-C_8)$ alkyl-,  $(C_1-C_9)$ heteroaryl- $(C_1-C_8)$ alkyl-O-,  $(C_1-C_9)$ heteroaryl- $(C_1-C_8)$ alkyl-O- $(C_1-C_8)$ alkyl-,  $(C_1-C_9)$ C<sub>9</sub>)heterocyclyl-O-, (C<sub>1</sub>-C<sub>9</sub>)heterocyclyl-O-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>9</sub>)heteroaryl-O-, (C<sub>1</sub>-30  $C_9$ )heteroaryl-O-( $C_1$ - $C_8$ )alkyl-, HO-(C=O)-( $C_1$ - $C_8$ )alkyl-S-, HO-(C=O)-( $C_1$ - $C_8$ )alkyl-S-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>9</sub>)heterocyclyl-(C<sub>1</sub>-C<sub>8</sub>)alkyl-S-, (C<sub>1</sub>-C<sub>9</sub>)heterocyclyl-(C<sub>1</sub>-C<sub>8</sub>)alkyl-S-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, (C<sub>1</sub>-C<sub>9</sub>)heteroaryl-(C<sub>1</sub>-C<sub>8</sub>)alkyl-S-, (C<sub>1</sub>-C<sub>9</sub>)heteroaryl-(C<sub>1</sub>-C<sub>8</sub>)alkyl-S-(C<sub>1</sub>- $C_8$ )alkyl-,  $(C_1-C_9)$ heterocyclyl-S-,  $(C_1-C_9)$ heterocyclyl-S- $(C_1-C_8)$ alkyl-,  $(C_1-C_9)$ heterocyclyl-S-,  $(C_1-C_9)$ heterocyclyl-S-

C<sub>9</sub>)heteroaryl-S-, (C<sub>1</sub>-C<sub>9</sub>)heteroaryl-S-(C<sub>1</sub>-C<sub>8</sub>)alkyl-, HO-(C=O)-(C<sub>1</sub>-C<sub>8</sub>)alkyl-SO<sub>2</sub>-, HO-

 $(C=O)-(C_1-C_8)alkyl-SO_2-(C_1-C_8)alkyl-, HO-(C=O)-(C=O)-(C_1-C_8)alkyl-, HO-(C=O)-(C_1-C_8)alkyl-, C=O)-(C_1-C_8)alkyl-, (C_1-C_8)alkyl-, (C_1-C_8)alkyl-, (C_1-C_8)alkyl-, (C_2-C_9)heteroaryl-, (C_2-C_9)heteroaryl-, (C_2-C_9)heteroaryl-, (C_2-C_9)heteroaryl-, (C_1-C_8)alkyl-, (C_2-C_9)heteroaryl-, (C_1-C_8)alkyl-, (C_2-C_9)heteroaryl-, (C_1-C_8)alkyl-, (C_2-C_9)heteroaryl-, (C_1-C_8)alkyl-, (C_1-C_8)alkyl-$ 

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15. The method according to claim 1, wherein the compound of formula I is selected from the group consisting of:

(2-{2-[4-(4-Fluoro-benzyl)-(2R)-2-methyl-piperazin-1-yl]-2-oxo-ethoxy}-5-trifluoromethyl-phenyl)-methanesulfonamide;

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(2-{3-[4-(4-Fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-3-oxo-propyl}-5-methyl-phenoxy)-acetic acid;

(5-Bromo-2-{2-[(2R)-2-ethyl-4-(4-fluoro-benzyl)-piperazin-1-yl]-2-oxo-ethoxy}-phenyl)-methanesulfonamide;

(5-Bromo-2-{2-[4-(4-chloro-benzyl)-(2R)-2-methyl-piperazin-1-yl]-2-oxoethoxy}phenyl)methanesulfonamide;

(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxoethoxy}-benzyloxy)-acetyl methanesulfonamide;

[(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxo-ethylamino}-pyridine-3-carbonyl)-amino]-acetic acid;

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2-(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxo-ethoxy}-phenoxy)-4-methyl-thiazole-5-carboxylic acid;

3-(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R)-2-methyl-piperazin-1-yl]-2-oxoethoxy}-phenyl)-acrylic acid;

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4-(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R)-2-methyl-piperazin-1-yl]-2-oxo-ethoxy}-phenyl)-4-oxo-butyric acid;

5-(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxo-ethoxy}-phenoxy)-5-methyl-pyrimidine-2,4,6-trione;

6-(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-30 oxo-ethoxy}-phenoxymethyl)-nicotinic acid;

oxo-ethoxy}-phenoxymethyl)-nicotinic acid;
C-(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R)-2-methyl-piperazin-1-yl]-2-oxo-

ethoxy}-phenyl)-N-(3-hydroxy-3-methyl-butyryl)-methanesulfonamide;

C-(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxo-ethoxy}-phenyl)-N-hydroxyacetyl-methanesulfonamide;

N-[(2-{2-[4-(4-Fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxoethoxy}-4-methoxy-phenyl)-acetyl]-methanesulfonamide; and N-[(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2oxo-ethoxy}-phenyl)-acetyl]-4-fluoro-benzenesulfonamide; or a pharmaceutically acceptable form thereof. 16. The method according to claim 1, wherein the compound of formula I is selected from the group consisting of: (2S)-2-Amino-4-(5-chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethylpiperazin-1-yl]-2-oxo-ethoxy}-phenoxy)-butyric acid; (4S)-4-(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1yl]-2-oxo-ethoxy}-phenoxy)-pyrrolidine-(2S)-2-carboxylic acid; (5-Bromo-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxoethoxy}-benzylideneaminooxy)-acetic acid; (5-Bromo-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxoethoxy}-phenoxy)-acetic acid; (5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxoethoxy}-benzylsulfamoyl)-acetic acid;

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3-(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2oxo-ethoxy}-phenyl)-acrylic acid; 20

4-(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2oxo-ethoxy}-phenyl)-4-oxo-butyric acid;

5-(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2oxo-ethoxy}-phenyl)-5-oxo-pentanoic acid;

(5-Chloro-2{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxoethoxy}-benzylideneaminooxy)-acetic acid;

6-(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2oxo-ethoxy}-phenoxy)-nicotinic acid;

C-(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2oxo-ethoxy}-phenyl)-N-hydroxyacetyl-methanesulfonamide;

N-[(5-Bromo-2-{2-[4-(4-fluoro-benzyl)-(2R)-2-methyl-piperazin-1-yl]-2-oxoethoxy}-phenyl)-acetyl]-methanesulfonamide;

N-[(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R)-2-methyl-piperazin-1-yl]-2-oxoethoxy}-phenyl)-acetyl]-methanesulfonamide;

N-[(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxo-ethoxy}-phenyl)-acetyl]-methanesulfonamide; and

N-[(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxo-ethoxy}-pyridin-3-yl)-acetyl]-methanesulfonamide;

or a pharmaceutically acceptable form thereof.

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17. The method according to claim 1, wherein the compound of formula I is selected from the group consisting of:

(2R)-2-(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R)-2-methyl-piperazin-1-yl]-2-oxo-ethoxy}-phenoxy)-propionic acid;

(4S)-4-(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxo-ethoxy}-phenoxy)-pyrrolidine-2-carboxylic acid;

(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxoethoxy}-phenylsulfamoyl)-acetic acid;

4-(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxo-ethoxy}-phenyl)-4-hydroxy-butyric acid;

4-(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxo-ethoxy}-phenoxy)-pyridine-2-carboxylic acid;

4-(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxo-ethoxy}-phenyl)-but-3-enoic acid;

4-(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R, 5S)-2,5-dimethyl-piperazin-1-yl]-2-oxo-ethoxy}-phenyl)-4-hydroxy-but-3-enoic acid;

N-(5-Chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxo-ethoxy}-pyridin-3-yl)-succinamic acid;

N-[(5-Bromo-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxo-ethoxy}-phenyl)-acetyl]-methanesulfonamide;

 $N-[(5-Chloro-2-\{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxo-ethoxy\}-phenyl)-acetyl]-sulfamide;$ 

N-Acetyl-C-(5-bromo-2-{2-[4-(4-chloro-benzyl)-(2R)-2-methyl-piperazin-1-yl]-2-oxo-ethoxy}-phenyl)-methanesulfonamide;

N-Acetyl-C-(5-chloro-2-{2-[(2R)-2-ethyl-4-(4-fluoro-benzyl)-piperazin-1-yl]-2-oxo-ethoxy}-phenyl)-methanesulfonamide;

N-Acetyl-C-(5-chloro-2-{2-[4-(4-chloro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxo-ethoxy}-phenyl)-methanesulfonamide; and

Propane-1-sulfonic acid [(5-chloro-2-{2-[4-(4-fluoro-benzyl)-(2R,5S)-2,5-dimethyl-piperazin-1-yl]-2-oxo-ethoxy}-phenyl)-acetyl]-amide; or a pharmaceutically acceptable form thereof.

- 5 18. The method according to claim 1, wherein the compound is administered as a composition comprising the compound of formula I or Ia and a pharmaceutically acceptable carrier.
- 19. The method according to claim 18, wherein the disorder or condition is 10 selected from the group consisting of pulmonary fibrosis, fibrosis associated with endstage renal disease, fibrosis caused by radiation, tubulointerstitial fibrosis, subepithelial fibrosis, scleroderma, hepatic fibrosis, primary and secondary biliary cirrhosis, obesity, cachexia, anorexia, type II diabetes, hyperlipidemia and hypergonadism, sequelae associated with multiple myeloma, breast cancer, joint 15 tissue damage, hyperplasia, pannus formation and bone resorption, hepatic failure, Kawasaki syndrome, myocardial infarction, acute liver failure, septic shock, congestive heart failure, pulmonary emphysema or dyspnea associated therewith, viral induced encephalomyelitis or demyelination, gastrointestinal inflammation, bacterial meningitis, cytomegalovirus, adenoviruses, Herpes viruses, fungal 20 meningitis, lyme disease, and malaria.